/K25

1. *Match each term with its correct definition below.* **(8 marks)**

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| --- | --- | --- | --- |
| a. | solution | e. | Heterogeneous |
| b. | homogeneous mixture | f. | Electrolyte |
| c. | solute | g. | Nonelectrolyte |
| d. | solvent | h. | Aqueous |

1. \_\_\_ 1. solute dissolved in water
2. \_\_\_ 2. compound that conducts electricity when dissolved in aqueous solution
3. \_\_\_ 3. liquid medium in which a solute is dissolved
4. \_\_\_ 4. uniform mixture with only one phase
5. \_\_\_ 5. homogeneous mixture of one solute and one solvent
6. \_\_\_ 6. mixture of two distinct visible phases
7. \_\_\_ 7. compound that doesn't conduct electricity when dissolved in water
8. \_\_\_ 8. substance that is dissolved in a solvent
9. Gasoline sold in Ontario must contain at least 5% v/v ethanol. How much ethanol is a driver likely to get when buying 30 L of gasoline? **( 3 marks)**
10. A student needs 1.50 L of 0.25 mol/L (M) of calcium chloride solution. What mass of calcium chloride does the student need to add to make the solution? **(4 marks)**
11. How much water must be added to 600 mL of a 1.5 mol/L CaCl2 solution to make the concentration of the resulting solution 1.0 mol/L? **(3 marks)**
12. A "sports drink" contains 50 mg of sodium ions and 55 mg of potassium ions per 400 mL serving. Calculate the concentration of the sodium and potassium ions in ppm. **(3 marks)**
13. Which of the following is most soluble in the non polar solvent, hexane? **(2 marks)**

HF HCl Br­2 BrF

1. Draw the interactions that would exist if ethanol (C2H5OH) is placed in water. **(2 marks)**